

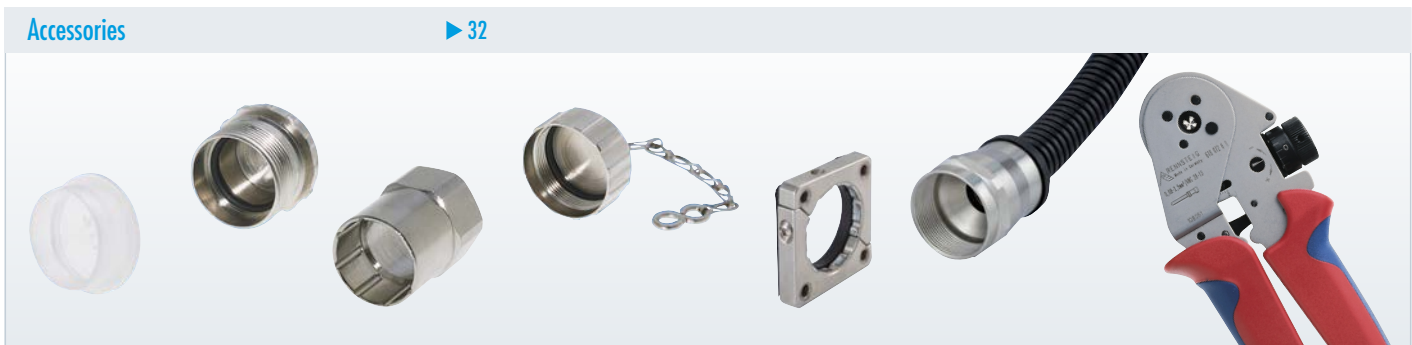
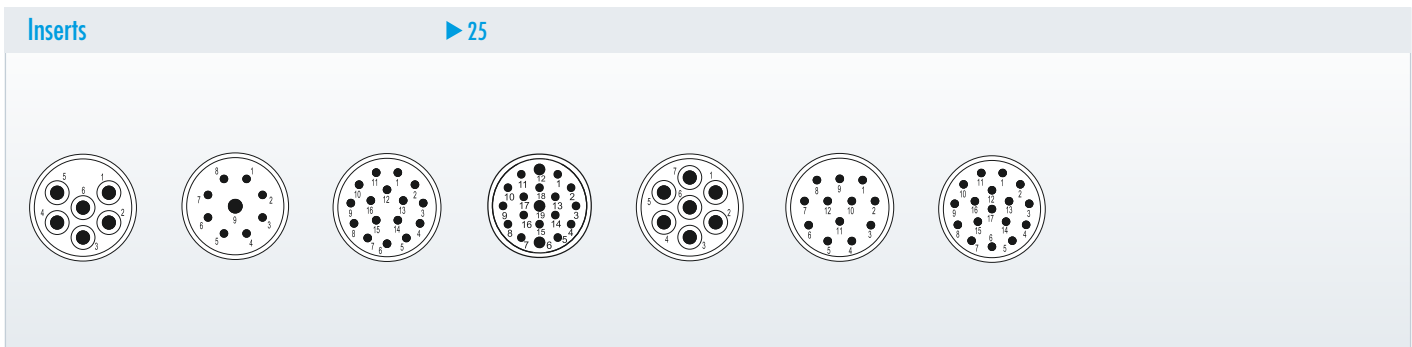
M 23 SIGNAL CONNECTORS

This reliable and universally applicable connector is widespread within industry. The connectors of HUMMEL AG can be customized freely. Moreover, they convince through their robustness and reliability. The range is modularly constructed and offers almost unlimited opportunities to the user.

- // Numerous housing types
- // Large variety
- // TWILOCK/TWILOCK-S quick release fastener



Product overview



Mechanical Data	Materials and Technical Data
Housing	Copper-Zinc alloy Die Cast
Housing surface	Nickel plated blue passivated other surface upon request
Inserts (for contacts)	Thermoplastic Polyamid PA 6 (Nylon 6/6), PBT Fire protection class V-0
Contacts	Brass Alloy
Contact surface at point of contact	Nickel and gold plated (0,25 µm)
Minimum mating cycles	> 1000*
Seals / O-Rings	Buna-N standard optional Viton® (FPM /FKM) (Viton is a registered trademark of DuPont)
Temperature range	-40 °C – 125 °C (-40 °F – 257 °F)
Type of contacts	Crimp, solder, dip-solder (PCB)
Protection	IP 67 / IP 69K per EN 60 529 (connected), NEMA 4x
Cable diameter range	3 – 17 mm (.12 – .67")

* HUMMEL to HUMMEL connector

Electrical Data	6	7	9 (8+1)	12	16	17	19 (16+3)
Number of positions	6	7	9 (8+1)	12	16	17	19 (16+3)
Number of contacts	6	7	8 1	12	16	17	16 3
Contact-Ø [mm]	2	2	1 2	1	1	1	1 1,5
Nominal current ¹⁾ [A]	20	20	8 20	8	8	8	8 10
Nominal voltage ²⁾ [V~] degree of pollution ³⁾	160	160	160	160	160	160	100
Test voltage (Breakdown voltage) ⁴⁾ [V~]	2500	2500	2500	2500	1500	1500	1500
Insulation resistance [Ω]	> 10 ¹⁰	> 10 ¹⁰	> 10 ¹⁰	> 10 ¹⁰	> 10 ⁶	> 10 ⁶	> 10 ⁶
Max. contact resistance [mΩ]	3	3	3	3	3	3	3

^{1), 2), 3), 4)} See Technical Information page 14



Housings

Straight Connector, Female Thread

Cable-Ø	Part Number
3 – 7 mm (.12 – .28")	7.106.400.000
7 – 12 mm (.28 – .47")	7.106.500.000
11 – 17 mm (.44 – .67")	7.106.600.000

▶ 25 | ▶ 31

Straight Connector, Female Thread TWILOCK / TWILOCK-S*

Cable-Ø	Part Number
3 – 7 mm (.12 – .28")	7.166.400.000
7 – 12 mm (.24 – .47")	7.166.500.000
11 – 17 mm (.43 – .67")	7.166.600.000

*** intermateable with Speedtec**

3 – 7 mm (.12 – .28")	7.166.400.00S
7 – 12 mm (.24 – .47")	7.166.500.00S
11 – 17 mm (.43 – .67")	7.166.600.00S

▶ 25 | ▶ 31

Straight Connector, Male Thread TWILOCK / TWILOCK-S*

Cable-Ø	Part Number
3 – 7 mm (.12 – .28")	7.206.400.000
7 – 12 mm (.28 – .47")	7.206.500.000
11 – 17 mm (.44 – .67")	7.206.600.000

*** intermateable with Speedtec**

3 – 7 mm (.12 – .28")	7.266.400.00S
7 – 12 mm (.24 – .47")	7.266.500.00S
11 – 17 mm (.43 – .67")	7.266.600.00S

▶ 25 | ▶ 31

Panel Connector, Male Thread, with Strain Relief

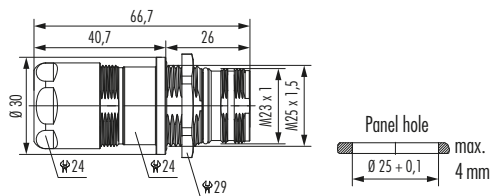
Cable-Ø	Part Number
4 threads M 3, rear mounting	
3 – 7 mm (.12 – .28")	7.476.400.000
7 – 12 mm (.28 – .47")	7.476.500.000
11 – 17 mm (.44 – .67")	7.476.600.000

Optional: Flat gasket

▶ 25 | ▶ 31

Housing without inserts and contacts

Panel Connector, Male Thread, with Strain Relief TWILOCK/TWILOCK-S*



Cable-Ø

Part Number

Rear mounting, M 25 x 1,5 single hole mounted

3 – 7 mm (.12 – .28")	7.486.400.000
7 – 12 mm (.28 – .47")	7.486.500.000
11 – 17 mm (.44 – .67")	7.486.600.000

* interchangeable with Speedtec

3 – 7 mm (.12 – .28")	7.486.400.00S
7 – 12 mm (.28 – .47")	7.486.500.00S
11 – 17 mm (.44 – .67")	7.486.600.00S



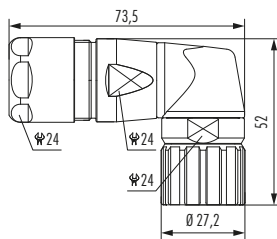
▶ 25



▶ 31

Including jam nut M 25 x 1,5

Right Angle Connector, Female Thread, EMC with positioning



Cable-Ø

Part Number

7 – 12 mm (.28 – .47")	7.301.500.000
10 – 14 mm (.39 – .55")	7.301.600.000

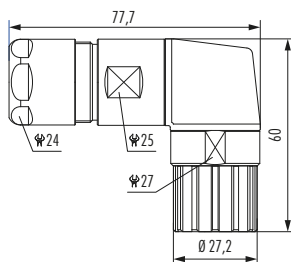


▶ 25



▶ 31

Right Angle Connector, EMC, rotatable



Cable-Ø

Part Number

7 – 12 mm (.28 – .47")	7.306.500.000
11 – 17 mm (.43 – .67")	7.306.600.000



▶ 25



▶ 31



Housings

Panel Connector, Male Thread, Front Mounting

Type	Part Number
4 holes Ø 3,2 mm (.13")	7.400.000.000 ¹
4 threads M 3	7.402.000.000 ¹
4 holes Ø 2,7 mm (.11")	7.404.000.000 ¹
4 threads M 2,5	7.406.000.000 ¹

▶ 25 |
 ▶ 31 |
 ▶ 32

Panel Connector, Male Thread, Front Mounting TWILOCK/TWILOCK-S*

Type	Part Number
With anti-vibration O-Ring	
4 holes Ø 3,2 mm (.13")	7.410.000.000
4 threads M 3	7.412.000.000 ¹
4 holes Ø 2,7 mm (.11")	7.414.000.000
4 threads M 2,5	7.416.000.000 ¹
* intermateable with Speedtec	
4 x Bholes 3,2 mm, Flange 25 x 25	7.410.000.00S
4 x Bohr. 3,2 mm, Flange 28 x 28	7.410.100.00S

▶ 25 |
 ▶ 31 |
 ▶ 32

Panel Connector, Female Thread, with knurled Nut

This Shell Requires Assembly Tool Part Number - 7.010.900.101

Type	Part Number
Without coding option	
4 holes Ø 3,2 mm (.13")	7.440.000.000
4 holes Ø 2,7 mm (.11")	7.444.000.000

▶ 25 |
 ▶ 31 |
 ▶ 32

Panel Connector, Female Thread, with knurled Nut, positionable

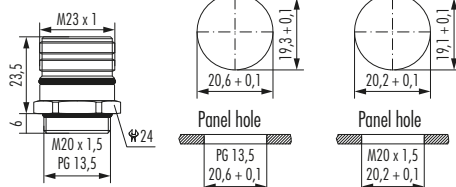
Type	Part Number
With coding option (8 x 45°)	
4 holes Ø 3,2 mm (.13")	7.448.000.000
4 holes Ø 2,7 mm (.11")	7.449.000.000

▶ 25 |
 ▶ 31 |
 ▶ 32

Housing without inserts and contacts

¹ no compatibility with TWILOCK

Panel Connector, Male Thread, Single Hole Mounted



Type Part Number

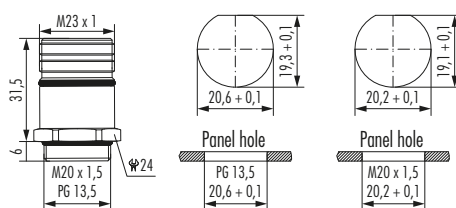
- Front mounting for male inserts**
- Thread M 20 x 1,57.420.000.000 ¹
 - Thread PG 13,57.422.000.000 ¹

Optional: jam nut M 20 x 1,5 / PG 13,5

*** FOR MALE *
INSERTS ONLY**



Panel Connector, Male Thread, Single Hole Mounted



Type Part Number

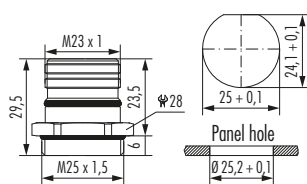
- Front mounting for female inserts**
- Thread M 20 x 1,57.421.000.000 ¹
 - Thread PG 13,57.423.000.000 ¹

Optional: jam nut M 20 x 1,5 / PG 13,5

*** FOR FEMALE *
INSERTS ONLY**



Panel Connector, Male Thread, Single Hole Mounted



Type Part Number

- For insert with pins / sockets**
- Thread M 25 x 1,57.425.000.000 ¹

Optional: jam nut M 25 x 1,5





Housings

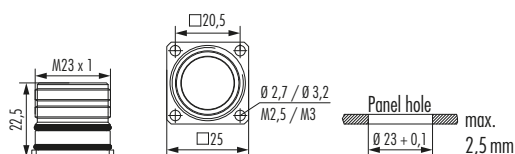
Right Angle Panel Connector, Male Thread, rotatable TWILOCK/TWILOCK-S*

Type	Part Number
330° rotatable, hole mounted	
4 x holes 3,2 mm (.13")	7.439.000.000
Flange 25 x 25 mm blue passivated	
4 x holes 3,2 mm (.13")	7.439.000.010
Flange 25 x 25 mm nickel plated	
* intermateable with Speedtec	
4 x holes 3,2 mm (.13")	7.439.000.00S
Flange 25 x 25 mm blue passivated	

Right Angle Panel Connector, Male Thread, rotatable TWILOCK/TWILOCK-S*

Type	Part Number
330° rotatable, hole mounted	
4 x holes 3,2 mm (.13")	7.439.100.000
Flange 28 x 28 mm blue passivated	
4 x holes 3,2 mm (.13")	7.439.100.010
Flange 28 x 28 mm nickel plated	
* intermateable with Speedtec	
4 x holes 3,2 mm (.13")	7.439.100.00S
Flange 28 x 28 mm blue passivated	

Panel Connector, Male Thread, Rear Mounting TWILOCK/TWILOCK-S*

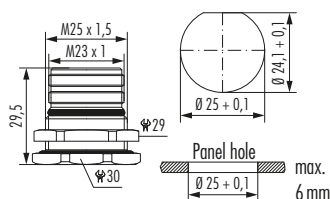


Type	Part Number
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With anti-vibration O-Ring	
4 holes \varnothing 3,2 mm (.13")	7.460.000.000
4 threads M 3	7.462.000.000
4 holes \varnothing 2,7 mm (.11")	7.464.000.000
4 threads M 2,5	7.466.000.000
* intermateable with Speedtec	
4 x threads M 3	7.462.000.005



Panel Connector, Male Thread, Single Hole Mounted TWILOCK/TWILOCK-S*

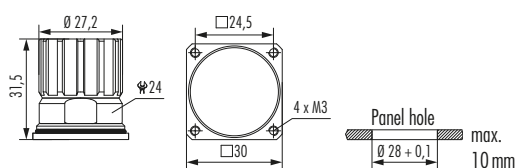


Type	Part Number
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Rear mounting	
Thread M 25 x 1,5	7.458.000.000 ¹
* intermateable with Speedtec	
Thread M 25 x 1,5	7.458.000.005
Including jam nut M 25 x 1,5	



Panel Connector, Female Thread, Rear Mounting



Type	Part Number
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With knurled nut, rear mounting	
4 threads M 3	7.459.000.000





Housings

Panel Connector with Radius Flange	Type	Part Number
	With anti-vibration O-Ring and flat body gasket Ø 58 mm (2.28")	7.490.000.000 ¹
Panel Connector with Radius Flange	Type	Part Number
	With anti-vibration O-Ring and flat body gasket Ø 70 mm (2.76")	7.491.000.000 ¹
Panel Connector with Radius Flange	Type	Part Number
	With anti-vibration O-Ring and flat body gasket Ø 90 mm (3.54")	7.492.000.000 ¹



Housing without inserts and contacts

¹ no compatibility with TWILOCK



Inserts 6-pole		Type	Part Number	Part Number
	Insert pin mating view (Part E)	Pinout clockwise	Pins	Sockets
		Insert with solder contacts.....	7.001.906.103	7.001.906.104
	Insert socket mating view (Part P)	Insert without contacts	7.003.906.101	7.003.906.102
		Insert with dip solder contacts		
		Length 3,5 mm	7.001.906.107	
		Insert with dip solder contacts		
		Length 10 mm	7.001.906.127	7.001.906.108
		Insert with dip solder contacts		
		Length 17 mm	7.001.906.137	7.001.906.118
<p>The correct dimension of a connector with dip solder contacts depends on the particular type of housing.</p> <p>Coding possibilities N, S, H, X, Y and Z (see page 30)</p>				



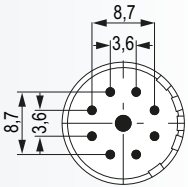
Inserts 7-pole		Type	Part Number	Part Number
	Insert pin mating view (Part E)	Pinout clockwise	Pins	Sockets
		Insert with solder contacts.....	7.001.907.103	7.001.907.104
	Insert socket mating view (Part P)	Insert without contacts	7.003.907.101	7.003.907.102
		Insert with dip solder contacts		
		Length 3,5 mm	7.001.907.107	
		Insert with dip solder contacts		
		Length 10 mm	7.001.907.127	7.001.907.108
		Insert with dip solder contacts		
		Length 17 mm	7.001.907.137	7.001.907.118
<p>The correct dimension of a connector with dip solder contacts depends on the particular type of housing.</p> <p>Coding possibilities N, S, H, X and Y (see page 30)</p>				



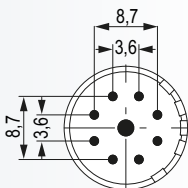


Inserts / Pinouts

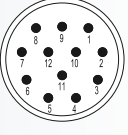
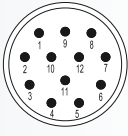
Inserts 9-pole (8 + 1)		Type	Part Number	Part Number
<p>Insert pin mating view (Part E)</p>	Pinout clockwise	Pins	Sockets	
	Insert with solder contacts.....	7.001.981.103	7.001.981.104	
	Insert without contacts	7.003.981.101	7.003.981.102	
	Insert with dip solder contacts			
	Length 3,5 mm	7.001.981.107		
	Insert with dip solder contacts			
	Length 10 mm	7.001.981.127	7.001.981.108	
<p>Insert socket mating view (Part P)</p>	Insert with dip solder contacts			
	Length 17 mm	7.001.981.137	7.001.981.118	
<p>The correct dimension of a connector with dip solder contacts depends on the particular type of housing.</p> <p>Coding possibilities N, S, H, X and Y (see page 30)</p>				

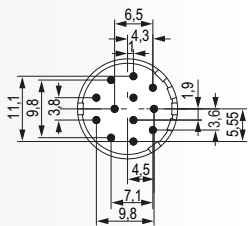


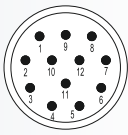
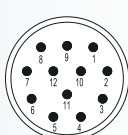
Inserts 9-pole (8 + 1)		Type	Part Number	Part Number
<p>Insert pin mating view (Part P)</p>	Pinout counter-clockwise	Pins	Sockets	
	Insert with solder contacts.....	7.002.981.103	7.002.981.104	
	Insert without contacts	7.004.981.101	7.004.981.102	
	Insert with dip solder contacts			
	Length 3,5 mm	7.002.981.107		
	Insert with dip solder contacts			
	Length 10 mm	7.002.981.127	7.002.981.108	
<p>Insert socket mating view (Part E)</p>	Insert with dip solder contacts			
	Length 17 mm	7.002.981.137	7.002.981.118	
<p>The correct dimension of a connector with dip solder contacts depends on the particular type of housing.</p> <p>Coding possibilities N, S, H, X and Y (see page 30)</p>				

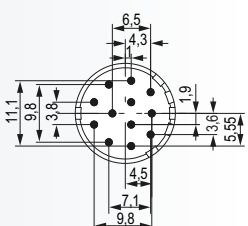




Inserts 12-pole		Type	Part Number	Part Number	
 Insert pin mating view (Part E)	 Insert socket mating view (Part P)	Pinout clockwise Pins		Sockets	
		Insert with solder contacts.....	7.001.912.103	.....	7.001.912.104
		Insert with solder contacts +PE (Pos.9).....	7.001.912.113	.....	7.001.912.114
		Insert without contacts	7.003.912.101	.....	7.003.912.102
		Insert without contacts +PE (Pos.9)	7.003.912.111	.....	7.003.912.112
		Insert with dip solder contacts Length 3,5 mm	7.001.912.107	.....
		Insert with dip solder contacts Length 10 mm	7.001.912.127	.....	7.001.912.108
		Insert with dip solder contacts Length 17 mm	7.001.912.137	.....	7.001.912.118
		The correct dimension of a connector with dip solder contacts depends on the particular type of housing.			
		Coding possibilities N, S, H, X, Y and Z (see page 30)			



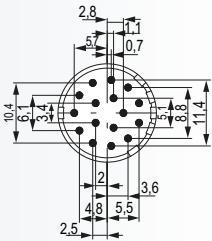
Inserts 12-pole		Type	Part Number	Part Number	
 Insert pin mating view (Part P)	 Insert socket mating view (Part E)	Pinout counter-clockwise Pins		Sockets	
		Insert with solder contacts.....	7.002.912.103	.....	7.002.912.104
		Insert with solder contacts +PE (Pos.9).....	7.002.912.113	.....	7.002.912.114
		Insert without contacts	7.004.912.101	.....	7.004.912.102
		Insert without contacts +PE (Pos.9)	7.004.912.111	.....	7.004.912.112
		Insert with dip solder contacts Length 3,5 mm	7.002.912.107	.....
		Insert with dip solder contacts Length 10 mm	7.002.912.127	.....	7.002.912.108
		Insert with dip solder contacts Length 17 mm	7.002.912.137	.....	7.002.912.118
		The correct dimension of a connector with dip solder contacts depends on the particular type of housing.			
		Coding possibilities N, S, H, X, Y and Z (see page 30)			



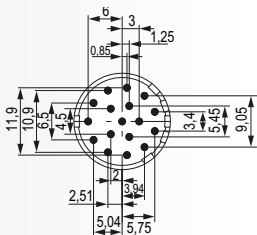


Inserts / Pinouts

Inserts 16-pole		Type	Part Number	Part Number
	Insert pin mating view (Part E)	Pinout clockwise	Pins	Sockets
		Insert with solder contacts.....	7.001.916.103	7.001.916.104
	Insert socket mating view (Part P)	Insert without contacts	7.003.916.101	7.003.916.102
		Insert with dip solder contacts		
		Length 3,5 mm	7.001.916.107	
		Insert with dip solder contacts		
		Length 10 mm	7.001.916.127	7.001.916.108
		Insert with dip solder contacts		
		Length 17 mm	7.001.916.137	7.001.916.118
<p>The correct dimension of a connector with dip solder contacts depends on the particular type of housing.</p> <p>Coding possibilities N, S, H, X, Y and Z (see page 30)</p>				

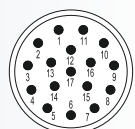


Inserts 17-pole		Type	Part Number	Part Number
	Insert pin mating view (Part E)	Pinout clockwise	Pins	Sockets
		Insert with solder contacts.....	7.001.917.103	7.001.917.104
	Insert socket mating view (Part P)	Insert without contacts	7.003.917.101	7.003.917.102
		Insert with dip solder contacts		
		Length 3,5 mm	7.001.917.107	
		Insert with dip solder contacts		
		Length 10 mm	7.001.917.127	7.001.917.108
		Insert with dip solder contacts		
		Length 17 mm	7.001.917.137	7.001.917.118
<p>The correct dimension of a connector with dip solder contacts depends on the particular type of housing.</p> <p>Coding possibilities N, S, H, X, Y and Z (see page 30)</p>				

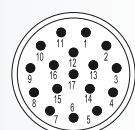




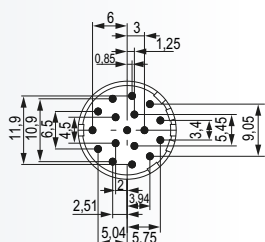
Inserts 17-pole



Insert pin mating view (Part P)



Insert socket mating view (Part E)



Type	Part Number	Part Number
Pinout counter-clockwise	Pins	Sockets
Insert with solder contacts.....	7.002.917.103	7.002.917.104
Insert without contacts	7.004.917.101	7.004.917.102
Insert with dip solder contacts		
Length 3,5 mm	7.002.917.107	
Insert with dip solder contacts		
Length 10 mm	7.002.917.127	7.002.917.108
Insert with dip solder contacts		
Length 17 mm	7.002.917.137	7.002.917.118

The correct dimension of a connector with dip solder contacts depends on the particular type of housing.

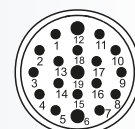
Coding possibilities N, S, H, X, Y and Z (see page 30)



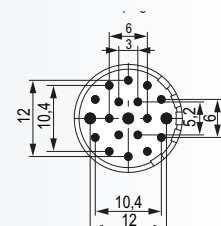
Inserts 19-pole



Insert pin mating view (Part E)



Insert socket mating view (Part P)



Type	Part Number	Part Number
Pinout clockwise	Pins	Sockets
Insert with solder contacts.....	7.001.919.103	7.001.919.104
Insert with solder contacts +PE (Pos.12).....	7.001.919.113	7.001.919.114
Insert with solder contacts + PE (Pos.12) 1,5 mm elongated ...	7.001.919.123	
Insert without contacts	7.003.919.101	7.003.919.102
Insert without contacts +PE (Pos.12)	7.003.919.111	7.003.919.112
Insert with dip solder contacts		
Length 3,5 mm	7.001.919.107	
Insert with dip solder contacts		
Length 10 mm	7.001.919.127	7.001.919.108
Insert with dip solder contacts		
Length 17 mm	7.001.919.137	7.001.919.118

The correct dimension of a connector with dip solder contacts depends on the particular type of housing.

Coding possibilities N, S, H, X and Y (see page 30)





Inserts / Pinouts

Contact Arrangement	Number of Poles	Required Contacts
	6	6 x 2 mm
	7	7 x 2 mm
	9 (8+1)	8 x 1 mm 1 x 2 mm
	12	12 x 1 mm
	16	16 x 1 mm
	17	17 x 1 mm
	19	16 x 1 mm 3 x 1,5 mm
	10	Housings and contacts 10-pole, see chapter „M 23 Power, M 23 Hybrid“, page 43–44




For the M23 crimp insert with 1 mm contacts can be used stamped crimp contact.



Coding	Number of Poles	Coding Possibilities
	6-pole	N, S, H, X, Y and Z
	7-pole	N, S, H, X and Y
	9-pole	N, S, H, X and Y
	12-pole	N, S, H, X, Y and Z
	16-pole	N, S, H, X, Y and Z
	17-pole	N, S, H, X, Y and Z
	19-pole	N, S, H, X and Y








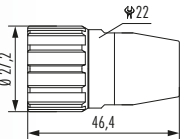
As standard, coding groove N is opened. To use other codings, please remove the coding barrier.



Contacts	Type	Crimp Range	Part Number
	Crimp pin 1 mm, machined.....	0,08 – 0,56 mm ² (AWG 28 – 20)	7.010.901.031
	Crimp pin 1 mm, machined	0,14 – 1 mm ² (AWG 26 – 17)	7.010.901.001
	Crimp pin 1 mm, machined.....	0,75 – 1,5 mm ² (AWG 17 – 16)	7.010.901.021
	Crimp socket 1 mm, machined	0,08 – 0,56 mm ² (AWG 28 – 20)	7.010.901.012
	Crimp socket 1 mm, machined	0,34 – 1 mm ² (AWG 22 – 17)	7.010.901.002
	Crimp socket 1 mm, machined	0,75 – 1,5 mm ² (AWG 17 – 16)	7.010.901.022
	Crimp pin 1,5 mm, machined	0,14 – 1 mm ² (AWG 26 – 17)	7.010.901.501
	Crimp socket 1,5 mm, machined	0,14 – 0,56 mm ² (AWG 26 – 20)	7.010.901.512
	Crimp socket 1,5 mm, machined	0,56 – 1 mm ² (AWG 20 – 17)	7.010.901.502
	Crimp pin 2 mm, machined.....	0,75 – 2,5 mm ² (AWG 18 – 14)	7.010.902.001
	Crimp socket 2 mm, machined.....	0,75 – 2,5 mm ² (AWG 18 – 14)	7.010.902.002



Accessories

Accessories	Type	Part Number
	Plastic protective cap for connectors	
	with male thread .....7.000.900.101 with female thread .....7.000.900.102	
	Brass protective cap for connectors with female thread .....7.010.900.103 ¹	
	Brass protective cap for connectors with male thread .....7.010.900.102	
	Brass protective cap with chain for connectors with female thread	
	Length 70 mm .....7.010.9S0.703 ¹ Length 100 mm .....7.010.9S1.003 ¹	
	Brass protective cap with chain for connectors with male thread	
	Length 70 mm .....7.010.9S0.702 Length 100 mm .....7.010.9S1.002	
	Assembly tool .....7.010.900.101	
 	Bus End Connector	
	Close type .....7.105.000.000 Used to cap an open male connector in bus-systems	

This Shell Requires Assembly Tool Part Number - 7.010.900.101

¹ no compatibility with TWILOCK

Accessories	Type	Part Number
	Adaptor flange for Straight Connectors.....	7.010.900.128 ¹
	Conduit adaptor Poleon DN 12 Poleon DN 14 Poleon DN 17	7.010.900.205 7.010.900.207 7.010.900.209
	Positioner for Crimp Tool DMC M22520	7.000.900.DMC
	Locator for Crimp Tool DMC M22520 with positioner For HUMMEL Contact: 7.010.901.001, 7.010.901.501, 7.010.902.001, 7.010.901.031	7.000.9DM.CO3
	Locator for Crimp Tool DMC M22520 with positioner For HUMMEL Contact: 7.010.901.012, 7.010.901.002, 7.010.901.512, 7.010.901.502, 7.010.902.002	7.000.9DM.CO4
	Screw Tool, adjustable 0.5 – 1.7 Nm Tool Adapter for tightening or loosening knurled nuts for M 23	7.010.900.190 7.010.900.192
	Crimping machine pneumatic crimp tool	on request
	Crimp tool for manual crimping of machined crimp contacts incl. locator for signal connectors Locator for M 16 / M 23 Signal Connectors (separate)	7.000.900.904 7.010.900.136

¹ no compatibility with TWILOCK